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EXAMINER

MAKI, STEVEN D

ART UNIT

PAPER NUMBER

1791

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/526,068	Applicant(s) OHSAWA ET AL.	
	Examiner Steven D. Maki	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1791

- 1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2) Claims 1-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "pneumatic tire which designates directions to an inner and outer side of a vehicle in a state where the tire is mounted on the vehicle" (emphasis added). One of ordinary skill in the art is not reasonably appraised of the scope of protection afforded by this language. It is uncertain if the "which designates directions" language relates to intended use or adds additional structure. If additional structure is intended, then the scope and meaning of such additional structure is ambiguous. Also, it is unclear if "in a state where the tire is mounted on the vehicle" limits claim 1 is limited to a vehicle.

Claim 1 describes "in a state where the tire is mounted on the vehicle" and "the tire mounted on a vehicle". This inconsistent language raises ambiguity as to the scope of claim 1.

- 3) The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

- 4) Claim 29 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one

Art Unit: 1791

skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 29, the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (i.e. the new matter) is "said vehicle comprising at least one pneumatic tire among a plurality of tires " (emphasis added). The original disclosure does not describe a vehicle having only one tire having the specified tread and therefore cannot reasonably convey a vehicle having at least one tire having the features set forth in claim 29. This is especially true since the disclosed tire has an asymmetric tread pattern.

5) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7) **Claim 29 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japan 004 (JP 03-220004).**

Art Unit: 1791

Japan 004 discloses a pneumatic tire with an asymmetric tread pattern comprising five land parts and four circumferential grooves 2, 3, 4, 5. The circumferential grooves are asymmetrically arranged as can be seen from Figure 1. The tread has an inside region 6, a center region 7 and an outside region 11. The tire has improved steering stability and resistance to non-uniform wear. It is also possible to guarantee wet performance. See figure 1, abstract and translation. Figure 1 describes the widths of the circumferential grooves. The circumferential groove 2 has a width "GW2" of 11.0 mm. The circumferential groove 3 has a groove width "GW3" of 13.0 mm. The circumferential groove 4 has a groove width "GW4" of 9.0 mm. The circumferential groove 5 has a groove width "GW5" of 9.0 mm. Figure 1 also describes the widths of the transverse grooves. The transverse grooves in the inner shoulder block row (first land part) have a width of 6.0 mm. The transverse grooves in the outer shoulder block row (fifth land part) have a width of 7.0 mm. The width of the inside shoulder block row is illustrated as being smaller than the width of the outer shoulder block row. The transverse grooves separating the blocks in the second land part (i.e. the block row between circumferential grooves 2 and 3) are inclined at angle alpha of 10-50 degrees with respect to the axial direction Y-Y. See translation. Japan 004 teaches that the tire is a high performance tire having a size such as 225/50VR16 and teaches installing the tire on both sides of a vehicle such that region 6 is an inside region (inner region) and region 11 is an outside region (outer region). The claimed lateral grooves read on the transverse grooves in the shoulder block rows. The claimed slant grooves read on the transverse grooves in the second land part. These

Art Unit: 1791

transverse grooves ("slant grooves") are inclined at angle of 10-50 degrees with respect to the axial direction. The range of 10-50 degrees overlaps claimed range of not less than 45 degrees.

As to claim 29, the claimed vehicle is anticipated by Japan 004's vehicle. The claimed tire reads on Japan 004's tire. The claimed tread reads on Japan 004's tread. Since the transverse grooves in the inner shoulder block row (first land part) have a width of 6.0 mm, the transverse grooves in the outer shoulder block row (fifth land part) have a width of 7.0 mm and the width of the inside shoulder block row is illustrated as being smaller than the width of the outer shoulder block row, there is sufficient evidence to conclude that the volume of grooves in the inner shoulder row is less than the volume of lateral grooves in the outer shoulder row. In any event: It would have been obvious to one of ordinary skill in the art to provide the shoulders of Japan 004's tire such that the volume of lateral grooves in the inside shoulder block row is smaller than the volume of lateral grooves in the outside shoulder block row since (1) Japan 004 discloses that the transverse grooves in the inner shoulder block row (first land part) have a width of 6.0 mm, the transverse grooves in the outer shoulder block row (fifth land part) have a width of 7.0 mm and the width of the inside shoulder block row is illustrated as being smaller than the width of the outer shoulder block row and (2) Japan 004 teaches that the tire has excellent steering stability and biased abrasion resistance due to high speed cornering while maintaining wet performance.

Art Unit: 1791

8) **Claims 1, 15, 20 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 004 (JP 03-220004) in view of Verdier (US 3,584,670) and/or Boiocchi et al (US 2002/0139460).**

Japan 004 discloses a pneumatic tire with an asymmetric tread pattern comprising five land parts and four circumferential grooves 2, 3, 4, 5. The circumferential grooves are asymmetrically arranged as can be seen from Figure 1. The tread has an inside region 6, a center region 7 and an outside region 11. The tire has improved steering stability and resistance to non-uniform wear. It is also possible to guarantee wet performance. See figure 1, abstract and translation. Figure 1 describes the widths of the circumferential grooves. The circumferential groove 2 has a width "GW2" of 11.0 mm. The circumferential groove 3 has a groove width "GW3" of 13.0 mm. The circumferential groove 4 has a groove width "GW4" of 9.0 mm. The circumferential groove 5 has a groove width "GW5" of 9.0 mm. Figure 1 also describes the widths of the transverse grooves. The transverse grooves in the inner shoulder block row (first land part) have a width of 6.0 mm. The transverse grooves in the outer shoulder block row (fifth land part) have a width of 7.0 mm. The width of the inside shoulder block row is illustrated as being smaller than the width of the outer shoulder block row. The transverse grooves separating the blocks in the second land part (i.e. the block row between circumferential grooves 2 and 3) are inclined at angle alpha of 10-50 degrees with respect to the axial direction Y-Y. See translation. Japan 004 teaches that the tire is a high performance tire having a size such as 225/50VR16 and teaches installing the tire on both sides of a vehicle such that region 6 is an inside

Art Unit: 1791

region (inner region) and region 11 is an outside region (outer region). The claimed lateral grooves read on the transverse grooves in the shoulder block rows. The claimed slant grooves read on the transverse grooves in the second land part. These transverse grooves ("slant grooves") are inclined at angle of 10-50 degrees with respect to the axial direction. The range of 10-50 degrees overlaps claimed range of not less than 45 degrees. Since the transverse grooves in the inner shoulder block row (first land part) have a width of 6.0 mm, the transverse grooves in the outer shoulder block row (fifth land part) have a width of 7.0 mm and the width of the inside shoulder block row is illustrated as being smaller than the width of the outer shoulder block row, there is sufficient evidence to conclude that the volume of grooves in the inner shoulder row is less than the volume of lateral grooves in the outer shoulder row. In any event: It would have been obvious to one of ordinary skill in the art to provide the shoulders of Japan 004's tire such that the volume of lateral grooves in the inside shoulder block row is smaller than the volume of lateral grooves in the outside shoulder block row since (1) Japan 004 discloses that the transverse grooves in the inner shoulder block row (first land part) have a width of 6.0 mm, the transverse grooves in the outer shoulder block row (fifth land part) have a width of 7.0 mm and the width of the inside shoulder block row is illustrated as being smaller than the width of the outer shoulder block row and (2) Japan 004 teaches that the tire has excellent steering stability and biased abrasion resistance due to high speed cornering while maintaining wet performance.

With respect to groove depth, it would have been obvious to one of ordinary skill in the art to provide Japan 004's lateral grooves such that the depth of the slant grooves

Art Unit: 1791

is deepened from the side of the equatorial line toward the side of the tread end of the slant groove since (1) Verdier suggests increasing the depth of transverse grooves from the center of a tread toward the edges to promote water drainage (col. 2 lines 26-31) and/or (2) Boiocchi et al's suggestion to increase depth of transverse grooves 71 in second land parts from the EP side toward the tread edge side to prevent unbalanced distribution of tread compound.

No unexpected results over Japan 004 have been shown.

As to claim 15, note the circumferential grooves of the asymmetric tread disclosed by Japan 004.

As to claim 20, Japan 004 teaches inclining the slant grooves at an angle alpha of 10-50 degrees with respect to the axial direction Y-Y.

As to claim 22, the claimed rigidity would have been obvious in view of Japan 004's disclosure to define land parts having similar widths using circumferential grooves 2, 3, 4 and 5. The description of the rigidity in the widthwise direction being "within a range of 50% from a large value between mutually adjacent land part rows" is sufficiently broad to read on the similar width land rows of Japan 004. The similar widths of the land rows result in similar rigidities for those land rows. As the width of a row increases, so does its rigidity in that direction. In other words, claim 22 reads and fails to define over land rows having the widths shown by Japan 004.

As to claims 23 and 24, the contact area on one side of Japan 004's tread is different than that on the other side.

Art Unit: 1791

9) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 004 (JP 03-220004) in view of Verdier (US 3,584,670) and/or Boiocchi et al (US 2002/0139460) as applied above and further in view of Takasugi et al (US 5,358021).

As to claim 2, it would have been obvious to use a pair of ribs as third and fourth land parts instead of a rib (third land part) and a block row (fourth land part) in Japan 004's asymmetrical tread in view of Takasugi et al's suggestion to use a pair of ribs 5, 4 as third and fourth land parts in an asymmetric tread of a tire having excellent maneuvering stability.

10) Claims 3, 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 004 (JP 03-220004) in view of Verdier (US 3,584,670) and/or Boiocchi et al (US 2002/0139460) as applied above and further in view of Japan 408 (JP 03-186408) and Takigawa et al (US 4,214,618).

As to claims 3, 5 and 8, it would have been obvious to one of ordinary skill in the art to form a fine circumferential groove in the shoulder of Japan 004's tire since Japan 408 and Takigawa et al suggest forming a fine circumferential groove in a shoulder of the tread of a tire to prevent wear. With respect to lateral grooves in the shoulder land portion being at no more than 15 degrees with respect to the widthwise direction (claim 3), the lateral grooves in the shoulder rows of Japan 004's tread are oriented generally perpendicular to the circumferential direction as shown in the figures. With respect to claim 5, see Figures 5 and 6 of Takigawa et al. With respect to claim 8, see Figure 1 of Japan 408.

Art Unit: 1791

11) Claims 4, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 004 (JP 03-220004) in view of Verdier (US 3,584,670) and/or Boiocchi et al (US 2002/0139460) and further in view of Japan 408 (JP 03-186408) and Takigawa et al (US 4,214,618) as applied above and further in view of Japan 511 (JP 2002-225511) and Japan 107 (JP 62-059107).

As to claims 4, 6 and 7, it would have been obvious to one of ordinary skill in the art to form the claimed holes in the shoulder of Japan 004's tread since Japan 511 and Japan 107 suggest forming holes in the shoulders of a tire tread to reduce wear. With respect to claim 4, both Japan 511 and Japan 107 teach disposing holes at a location axially inward of the location of the narrow groove suggested by Japan 408 and Takigawa et al. With respect to claim 6, Japan 107 suggests using smaller holes near the circumferential groove. With respect to claim 7, both Japan 408 and Takigawa et al teach disposing holes in a ground contacting surface of the tire. The description regarding camber (camber at an angle of $-.5$ degrees being an intended use feature) fails to require holes closer to the circumferential groove than that suggested by Japan 511 and Japan 107.

12) Claims 9-12 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 004 (JP 03-220004) in view of Verdier (US 3,584,670) and/or Boiocchi et al (US 2002/0139460) and further in view of Japan 408 (JP 03-186408) and Takigawa et al (US 4,214,618) as applied above and further in view of Europe 104 (EP 810104) and Emerson (US 5,421,387) and Adam et al (US 5,211,781).

Art Unit: 1791

As to claims 9-12 and 26, it would have been obvious to one of ordinary skill in the art to form both end opening widthwise fine grooves inclined at an angle with respect to the circumferential direction in Japan 004's rib since (1) Europe 014 teaches forming sipes in a tread to improve grip, (2) Emerson shows forming "sipes" in ribs of an asymmetrical tread pattern and (3) it is well known / conventional in the tread art to illustrate sipes as lines because they are narrow as evidenced by Adam et al. Hence, Europe 104 and Emerson suggests forming sipes in the rib (including the biased center rib) to obtain the predicted result of improved grip. With respect to claim 10, Europe 104 teaches curving the sipe in the depth direction.

13) Claims 13, 14 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 004 (JP 03-220004) in view of Verdier (US 3,584,670) and/or Boiocchi et al (US 2002/0139460) as applied above and further in view of German 159 (DE 3738159).

As to claims 13, 14 and 28, it would have been obvious to form the claimed ellipsoidal recesses in Japan 004's tread since German 159 suggest forming ellipsoidal sipes 9 in shoulder ribs and a center rib of a tread to provide uniform wear and obtain good grip.

As to claim 28, the subject matter therein would have been obvious since German 159 teaches orienting the ellipsoidal sipes in shoulders such that the major axes are alternately opposed in the circumferential direction. See figure 3. Figure 3 clearly illustrates ellipsoidal sipes 9 in each of the shoulder ribs and center rib and Figure 3 clearly shows alternatingly inclined ellipsoidal recesses.

Art Unit: 1791

14) Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 004 (JP 03-220004) in view of Verdier (US 3,584,670) and/or Boiocchi et al (US 2002/0139460) as applied above and further in view of Europe 405 (EP 1,074,405).

As to claims 16 and 17, it would have been obvious to provide Japan 004's blocks with the claimed height since Europe 405 suggests forming a peripheral protuberant portion on a block of a tire tread to prevent ununiformity of ground contact pressure and thereby improve uneven wear resistance.

15) Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 004 (JP 03-220004) in view of Verdier (US 3,584,670) and/or Boiocchi et al (US 2002/0139460) as applied above and further in view of Takashi (WO 02/102611) or Japan 321 (JP 11-334321).

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

As to claim 17, it would have been obvious to provide Japan 004's blocks with the claimed height since (1) Takahashi teaches providing blocks of a tire tread with varying height at leading and trailing edges to reduce noise or (2) Japan 321's suggestion to provide blocks of a tire tread with varying height at leading and trailing edges to enhance stability (machine translation). US 2005/0072505 is an English language equivalent to WO 02/102611.

Art Unit: 1791

16) Claims 18 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 004 (JP 03-220004) in view of Verdier (US 3,584,670) and/or Boiocchi et al (US 2002/0139460) as applied above and further in view of Europe 101 (EP 849101).

As to claims 18 and 27, it would have been obvious to provide Japan 004's blocks with the claimed decreasing height in an acute angle corner portion since Europe 101 teaches chamfering the acute angle corners of blocks of a tire tread to improve resistance to uneven wear.

17) Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 004 (JP 03-220004) in view of Verdier (US 3,584,670) and/or Boiocchi et al (US 2002/0139460) as applied above and further in view of Canada 627 (CA 2,083,627).

As to claim 19, it would have been obvious to add projections as claimed in Japan 004's circumferential grooves since Canada 627 teaches disposing projections in circumferential grooves of a tire tread to improve transmission of tractive and braking forces.

18) Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 004 (JP 03-220004) in view of Verdier (US 3,584,670) and/or Boiocchi et al (US 2002/0139460) as applied above and further in view of Japan 406 (JP 56-131406).

As to claim 21, it would have been obvious to one of ordinary skill in the art to provide Japan 004's lateral grooves such that the directions of the lateral grooves are

Art Unit: 1791

alternately rendered in opposite directions since it is taken as well known / conventional per se in the tire art to use of alternating direction lateral grooves to improve slip resistance (traction) as evidenced by Japan 406.

19) Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 004 (JP 03-220004) in view of Verdier (US 3,584,670) and/or Boiocchi et al (US 2002/0139460) as applied above and further in view of Japan 915 (JP 2002-192915).

As to claim 25, it would have been obvious to use the claimed rim and disc to mount Japan 004's tire since Japan 915 shows using a rim and disc (Figure 1) in order to mount a tire.

Remarks

20) Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

21) No claim is allowed.

22) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1791

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/Steven D. Maki/
Primary Examiner, Art Unit 1791

Steven D. Maki
January 4, 2010